

**Before the
Federal Communications Commission
Washington, DC 20554**

June 15, 2007

In the Matter of)	
)	
Broadband Industry Practices)	WC Docket
No. 07-52)	
)	

FreedomWorks is an 830,000-member grassroots organization that promotes market-based solutions to public policy issues. Established in July 2004 through a merger of Citizens for a Sound Economy and Empower America, FreedomWorks has consistently pursued policies that foster free-enterprise and competition. FreedomWorks has been actively involved in a number of regulatory issues and has been particularly interested in technological advances and changes in the marketplace that bolster competition and consumer choice. In such instances it is critical that the regulatory framework adapt to the realities of the marketplace so that consumers are not unnecessarily restricted in their choices and the degree of competition in the marketplace is maximized.

We submit these comments in response to the Notice of Inquiry on Broadband Industry Practices. Briefly, we urge the Commission to avoid implementing a new regulatory proceeding to address network neutrality. This would mark a significant expansion in the FCC's oversight of the internet, despite the lack of evidence that problems currently exist. Competition is brisk, prices are declining, and quality is significantly improving—hardly the signs of a non-competitive market. Issues of market power and the ability to leverage that power into different layers of the internet are not unique to one particular layer of the internet. Such activity can occur anywhere in the market. As such existing antitrust laws are more

general and far better suited for addressing any situations that may arise rather than proposing new *ex ante* regulatory oversight.

Introduction

In practice, net neutrality mandates may yield unintended consequences that generate benefits for some while imposing substantial costs on others. Most importantly, price controls would push all costs to end users in the name of net neutrality. Unfortunately, these price controls would have the effect that price controls always have on the workings of the market—less output, less innovation, and less investment in the infrastructure critical for the deployment of broadband. Much has changed in how the internet is used, yet new mandates threaten to lock in an architecture that may limit the deployment of new technology.

As new technologies emerge and broadband expands to an even greater population, the internet is showing its age. Streaming video is replacing the static web page, and real quality of service (QoS) issues are developing. Net neutrality mandates effectively freeze the internet's development at a stage that may be inappropriate for future use patterns. In an age of BitTorrent and IPTV, it is not surprising that new tools for network management may be required.¹ One study notes, "Greater bandwidth and processing power alone will not solve all congestion and QoS problems on the Internet. This is because the Internet involves the use of scarce resources, and when treated otherwise, theory and evidence suggests that congestion will become a problem, undermining convergence and the development of services that require superior QoS statistics."²

Net neutrality proponents, on the other hand, are wary of new pricing mechanisms for better network management. Instead, they propose to regulate access, something that may limit innovation. A simple survey of the marketplace suggests the potential impact of regulation. Since the deregulation of the market for telecommunications, there has been an

¹ BitTorrent is a peer-to-peer file sharing protocol that allows the distribution of very large amounts of information across the internet. One study found that "it only takes about 10 BitTorrent users bartering files on a node (of around 500) to double the delays experienced by everybody else." Cited in Leslie Ellis, "BitTorrent's Swarms Have a Deadly Bite On Broadband Nets," Multichannel News, May 8, 2006, available at <http://www.multichannel.com/article/CA6332098.html>.

² The Wik Consult, *The Economics of IP Networks—Market, Technical and Public, Policy Issues Relating to Internet Traffic Exchange*, Study for the European Commission, May 2002, p. 162.

explosion of products available for the end consumer. The regulatory era was marked by a limited set of choices for consumers, with most consumers having access to little more than a simple rotary phone. However, beginning with the Carterphone decision in 1968, the FCC eased regulatory restraints on third party hardware connecting to the phone network and the result was a rush to market of new products, from fax machines to answering machines to any number of telephones, all of which was marked by significant decreases in price.³

Advocates for net neutrality uphold the end-to-end principle as a policy goal. Neutrality means that the internet merely transfers data while applications at the edge manage the data (e.g., spam filters, etc.) and determine how the data is used (e.g., email, web browser, etc.). They see the creative component of the internet exclusively at the edge; the pipes are simply a mechanism to connect these islands of creativity. Yet a significant amount of innovation already occurs within the pipes in order to route data packets at higher speeds and lower costs. Increasing traffic and new applications highlight the need for even better traffic management, and ensuring QoS requires an even greater dose of intelligence for what are often assumed dumb pipes.

By definition, mandated dumb pipes would functionally operate as a common carrier. Not only does this limit innovation, but it may also reduce competition in the “last mile,” the very concern that fuels much of today’s debate. In a competitive market, investments will only be undertaken if there is a reasonable chance to generate a return on the capital outlay. Innovation and experimentation allow broadband providers to offer new opportunities for networks and deployment.

Dumb pipes, on the other hand, are an undifferentiated commodity, which reduces incentives to deploy in an area already served by an incumbent broadband provider. In today’s market, it is the new capabilities of high-speed broadband, including faster internet connections, video programming, and internet telephony, that are driving deployment. Providers are competing in terms of both speed and service, seeking to offer consumers a unique and enjoyable online experience. WiMax providers offer

³ Robert Crandall, *After the Breakup: The U.S. Telecommunications Industry in a More Competitive Era*, The Brookings Institution, 1991. It should be noted that some have pointed to the Carterphone decision as a means of instituting net neutrality (for instance, Tim Wu, “Wireless Net Neutrality: Cellular Carterphone on Mobile Networks,” New America Foundation, Working Paper no. 17, ver. 2.1, February 2007. However the analogy is inapplicable here. The initial decision was issued in a market defined by a regulated monopolist. Carterphone, in effect, eased regulatory restrictions for entering the market. In today’s broadband market, such a decision, would impose a new regulatory burden on a market that the FCC views as competitive.

the additional benefit of mobility, another characteristic of demand that many consumers rate highly. However, mandates that reduce the network to a commoditized service limit the margins for competition, reducing incentives to invest in critical infrastructure. Consequently, net neutrality requirements could generate greater concerns over market power than exists in today's internet, while making QoS and pricing experimentation difficult.

Internet Pricing Practices

In its Notice of Inquiry, the FCC sought comments on pricing with respect to the network and content. We argue that pricing is an important issue. To properly understand broadband fees and assess the existence of anticompetitive practices, it is important to understand how the market for broadband services operates. Broadband is an example of what recent economic literature has described as a two-sided market.⁴ In a two-sided market, two different groups interact with each other through a shared platform. For example, a newspaper provides a platform for both readers and advertisers, and a broadband provider offers a platform for internet users and content providers hoping to attract customers.

Unlike the standard market of economic analysis, the two-sided market raises new questions about costs and pricing. In a standard market, prices are set to cover the costs of all inputs, as well as normal returns for the entrepreneur whose capital is at risk. But the two-sided market adds a new element to the analysis. Namely, how does the platform allocate costs between the two markets? In the newspaper example, the reader pays a very low price for the product, while revenues from advertisers are a more important stream of income. However, what the newspaper can charge the advertisers is a function of how many readers can be claimed. In effect, the question of pricing becomes an exercise in joint maximization, where both sides of the market must be considered simultaneously.

This interaction between the two sides of the market is the result of what economists call "network effects" and makes the optimal pricing strategy a more difficult issue than the standard market. In short, the value of the network increases as the number of people who use the network increases. Consider the simple example of a phone, which is only valuable because it allows the user to connect with others on the network. The more users, the more value the phone provides. It is the same with high-speed broadband internet service. The greater the access to content, the greater the benefits created for the end user. But in this two-sided market, the reverse is true as well: the greater the number of end users, the more attractive it

⁴ Jean-Charles Rochet and Jean Tirole, "Two-Sided Markets: An Overview," Mimeo, IDEI, Toulouse, France, March 12, 2004.

becomes to provide content on the network. The fundamental question then becomes how to maximize the overall value of the network to both content providers and consumers.

Prices on each side of the market affect the other side, which means the costs of the network must be allocated across both sides of the market in a way that increases the value for everyone. As Rochet and Tirole note, “Platforms [such as high-speed internet providers] must perform the balancing act between the two sides along various policy dimensions and not only with respect to the price structure. They therefore often regulate the terms of transactions between end-users, screen members in non-price related ways and monitor intra-side competition. In all instances, they sacrifice profit by constraining one side to boost attractiveness for and recoup losses on the other side.”⁵

From the broadband provider’s perspective, this means balancing both sides of the market and establishing prices to optimize the overall value of the network. These prices are tempered by competition between broadband providers and with alternative forms access to content.

Competition occurs on both sides of the market. Consumers are looking for providers offering universal access to the worldwide web at the best price. Content providers, on the other hand, are looking for access to the largest number of end users at the lowest price.

Clearly, both sides of the market have different demands that must be addressed. Prices are set by broadband providers based on the economic characteristics of demand by both consumers and providers. One important component for establishing the appropriate rates is the elasticity of demand on both sides of the market. This is nothing more than a measure of how sensitive both sides of the market are to price changes. Using this joint methodology, broadband fees could be set at a point where more revenues are generated from content providers rather than end users.

In the end, the fee should attempt to reflect the value of the service being offered to content providers and end users, who both clearly receive a great number of benefits from the availability of a broadband network. However, some of the largest providers of content, such as Yahoo and Google, oppose attempts to optimize prices across a two-sided market. In effect, they propose the costs of broadband deployment and maintaining the network be collected exclusively from end users. At a hearing on net neutrality, Vinton Cerf, of Google, testified before the Senate: “The broadband carriers are fully compensated by their residential customers for their use of the network.

⁵ *Ibid*, p. 41.

These companies can charge their own customers whatever they want, in order to make back their investments."⁶

In an analysis of various pricing strategies, Gregory Sidak notes that content providers are proposing a particular pricing policy for the web that focuses on end users.⁷ He looks at pricing bandwidth according to two variables: bandwidth and priority. Tiered pricing can use either of these. There is little debate over the former, as all parties generally agree that all users—content providers and consumers—should pay for the bandwidth they use. Yet tiered pricing may, in fact, be a beneficial activity and should not be viewed as a form of discrimination. Importantly, Alfred Kahn notes that such measures are not, in fact, price discrimination in an economic sense. Price discrimination entails charging different prices for the same good, based on individual elasticities. But in this instance, they are not the same good. Charging more for a higher tier of service is not price discrimination, no more than charging different prices for apples and oranges.⁸

Fees charged by broadband providers attempt to optimize the value of the network. However, quantifying the benefits of the network to content providers is often difficult. This has led many, who would prefer to pay less for access to end users, to call for cost-based regulation, which is nothing more than price controls for broadband providers. Both tiered access and packet prioritization would be prohibited. Historically, price controls have performed poorly, generating market distortions and market inefficiencies. These dangers are even greater in a two-sided market, where the economic theory is still unsettled.

The FCC's Policy Statement

We do not believe the Policy Statement should be amended. The mandates advocated for keeping the net neutral all lock in some idealized notion of the internet that would mark a significant expansion of the FCC's regulatory authority. Although the Internet, up to this point, has evolved largely in a market-based setting, the new mandates pose a potential threat to all businesses using the Internet, particularly with respect to broadband

⁶ Vinton G. Cerf, Testimony before the U.S. Senate Committee on Commerce, Science, and Transportation, February 7, 2006, p. 6.

⁷ J. Gregory Sidak, "A Consumer-Welfare Approach to Network Neutrality Regulation of the Internet," *Journal of Competition Law and Economics*, 2006. Available at <http://ssrn.com/abstract=928582>.

⁸ Alfred Kahn, "Network Neutrality," AEI-Brookings Joint Center for Regulatory Studies, March 2007, p. 3, available at <http://aei.brookings.org/admin/authorpdfs/page.php?id=1374&PHPSESSID=a3701a64cc6321f33088acbb799e16d7>

deployment and upgrading the Internet to handle new data-intensive applications.

With some clarification, the Federal Communications Commission, under Chairman Kevin Martin, released a policy statement on internet freedom in 2005 that included four main principles outlined by the previous FCC Chairman, Michael Powell. More importantly, the Policy Statement also asserted that the FCC had the authority to ensure that the internet was operated in a neutral manner. Nonetheless, advocates of net neutrality find these principles wanting, and are seeking legislation to strengthen these principles. In particular, they hope to add a fifth principle on “nondiscrimination” that would prohibit distinctions between data packets.

Despite assertions that net neutrality is about access and not network management, new rules on net neutrality would have significant implications for the internet. Indeed, Richard Bennett, an early pioneer of the internet, notes, “On the technical side, my objection to the ‘Net Neutrality’ bills (Markey, Snowe-Dorgan, Sensenbrenner [sic], Wyden) is the ban on for-fee Quality of Service (QoS). QoS is a legitimate offering, especially in the day of BitTorrent and what’s to follow it....The End-to-End is fine for error recovery in file transfer programs, not so fine for congestion control in the interior links of the internet. For the latter, we need QoS, MPLS, and address-based quotas.”⁹

Perhaps the most notable effect would be the disincentives created for investing in new technologies or expanded broadband deployment. When mandates require any updates that enhance or prioritize the ability to move information across the internet to be immediately available to anyone using the network, there is a reduced incentive to invest in better network management. Enhanced quality of service or tiered access that prioritizes the delivery of specific packets of data may no longer be available as an option, which can have important consequences for the operation of the internet.

To date the internet has evolved relatively free from federal regulation. This flexibility has created an important resource that continues to evolve to meet a growing demand among consumers and businesses. Moreover, that demand has generated new products that may require new tools for network management. It is not in the public’s interest to give the government the job of controlling this evolution. Whether pipes are dumb or smart should be determined by those using the network, as should decisions on handling the burgeoning flow of information over the internet.

⁹ Quoted in Andrew Orlowski, “How ‘Saving the Net’ May Kill It,” The Register, July 17, 2006, available at http://www.theregister.co.uk/2006/07/17/net_neut_slow_death/.

It should be remembered that federal antitrust laws continue to provide significant regulatory oversight of the market, even in the absence of new net neutrality mandates. In the most significant example of anticompetitive behavior relating to internet access, it is worth noting that the FCC immediately intervened, as did Canadian authorities. An ISP, Madison River, was blocking Vonage on its network, and regulatory authorities promptly issued a fine and forced the ISP to allow access to its network.¹⁰

As the online world emerges, questions of market power may arise that cut across all market participants. Net neutrality has, to date, focused primarily on the physical layer. Yet market power can exist elsewhere. The diversity of potential sources of market power suggests that the existing antitrust laws embody a degree of flexibility that makes them more aptly suited to addressing any problems than would an *ex ante*, proscriptive net neutrality regulation.

Legal Authority

Net neutrality supporters typically point to the threat of monopoly in this last mile as a primary reason to adopt new regulations. Yet, studies by the FCC suggest broadband internet usage is increasing at a significant pace. In the first half of 2006, for example, the increase was 26 percent, bringing the total number of lines in use to more than 64 million.¹¹ (See Figure 2.) Most of the nation live in zip codes that have 2 or more broadband providers, and more than 75 percent of the population has three or more choices, and these numbers are improving.¹²

Additionally, emerging technologies should further allay fears of anticompetitive behavior among broadband providers. New providers offer alternative avenues to consumers, with WiMax creating the potential of wireless networks covering entire towns or cities. Other technologies under development, such as broadband over power lines (BPL), also hold promise for future deployment and new competitors. In fact, DirecTV has announced

¹⁰ Alfred E. Kahn, "A Democratic Voice of Caution on Network Neutrality," Release 2.24, Progress and Freedom Foundation, October 2006, p. 2, available at <http://www.pff.org/issues-pubs/ps/2006/ps2.24voiceofcautiononnetneutrality.pdf>.

¹¹ FCC, Chart 1, Industry Analysis and Technology Division Wireline Competition Bureau, "High-Speed Services for Internet Access: Status as of June 30, 2006" January 2007, Table 1. Available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf.

¹² FCC, Industry Analysis and Technology Division Wireline Competition Bureau, "High-Speed Services for Internet Access: Status as of June 30, 2006" January 2007, Chart 15. Available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf.

that it is already experimenting with this new technology.¹³

Blocking particular websites or limiting web access, common assertions of made by net neutrality advocates makes little sense in a dynamic and expanding market. Competition requires providing consumers with what they are seeking: the best online experience possible. For broadband providers, then, blocking websites or limiting access does not increase broadband penetration.

Moreover, it must be remembered that large content and application providers may exhibit a degree of market power themselves. For, example, if Verizon tried to block a popular site such as Amazon or Google because they could not come to terms on pricing, consumers may abandon Verizon in favor of a broadband provider that does connect to sites that consumers demand, which raises an important issue. Namely, where does the monopoly threat end? If, in fact, Google, with more than half the market for internet searches, does have market power, is regulation required in the name of net neutrality? Similarly, even content providers may possess market power, with a provider such as ESPN able to extract surplus from ISPs.

A firm in any layer can expand to provide new services on the internet, as has been witnessed by Google's jump from the application layer to the content layer with the \$1.65 billion purchase of YouTube.¹⁴ The major concern is whether a firm can leverage market power in one layer into market power in another layer. Proponents of net neutrality assert that broadband providers have monopoly power in the last mile that could be used to create market power in the content layer. But Google's search engine had a market share of over 64 percent; indeed, in March 2007, the two top search engines have a market share just over 75 percent, according Nielsen/Net Ratings, but it would be difficult to demonstrate that this warrants new regulations.¹⁵ All of these situations can be addressed by existing antitrust laws should abuses occur. These are phenomena that are general to any market and no legislation or special rules are warranted.

Google has leveraged itself into the content market with YouTube and other services. With respect to advertising, the search giant is clearly engaged in a two-sided market, matching advertisers to consumers using algorithms to extract as much surplus as possible. While this may be an example of an application that is expanding into the content market, it does not seem to

¹³ See "DirecTV May Try Broadband on Power Lines," Reuters, May 14, 2007, available at <http://www.reuters.com/article/technologyNews/idUSN1433448320070514>.

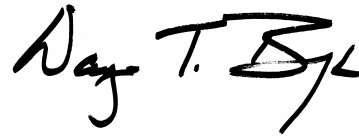
¹⁴ Google Press Center, "Google To Acquire YouTube for \$1.65 Billion in Stock," October 9, 2006, available at http://www.google.com/press/pressrel/google_youtube.html.

¹⁵ Cited in ZDNet IT Facts, Available at <http://blogs.zdnet.com/ITFacts/?cat=27>.

suggest that Google is abusing market power. Similarly with broadband providers, in the absence of evidence of abuse, new regulations are not required. The existing antitrust laws are more than ample to address any such concerns.

As the online world emerges, questions of market power may arise that cut across all market participants. Net neutrality has, to date, focused primarily on the physical layer. Yet market power can exist elsewhere. The diversity of potential sources of market power suggests that the existing antitrust laws embody a degree of flexibility that makes them more aptly suited to addressing any problems than would an *ex ante*, proscriptive net neutrality regulation.

Respectfully submitted,

A handwritten signature in black ink, reading "Wayne T. Brough". The signature is stylized, with the first name "Wayne" written in a cursive-like script, followed by "T." and "Brough" in a more formal, slightly cursive style.

Wayne T. Brough
Vice President for Research
FreedomWorks

And

Arthur A. Fleisher, III

A handwritten signature in black ink, reading "Arthur A. Fleisher, III". The signature is written in a cursive style, with the first name "Arthur" being prominent, followed by "A.", "Fleisher", and "III".

Professor
Metropolitan State College of Denver